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ABSTRACT

This second in a series of six learning modules on instructional planning is designed to give secondary and postsecondary vocational teachers skill in writing student performance objectives which spell out for teachers, students, and prospective employers exactly what is expected of students in the program. It is also intended to give experience in sequencing student performance objectives to ease student learning. The terminal objective for the module is to develop student performance objectives. Introductory sections relate the competency dealt with in this module to others in the program and list both the enabling objectives for the six learning experiences and the resources required. Materials in the learning experiences include required reading, self-check quizzes, model answers, performance objective writing exercises, model analyses, performance checklists, and the teacher performance assessment form for use in evaluation of the terminal objective. (The modules on instructional planning are part of a larger series of 100 performance-based teacher education (PBTE) self-contained learning packages for use in preservice or inservice training of teachers in all occupational areas. Each of the field-tested modules focuses on the development of one or more specific professional competencies identified through research as important to vocational teachers. Materials are designed for use by teachers, either on an individual or group basis, working under the direction of one of more resource persons/instructors.) (TA)

ED149060

MODULE

B-2

Develop Student Performance Objectives

MODULE B-2 OF CATEGORY B—INSTRUCTIONAL PLANNING
PROFESSIONAL TEACHER EDUCATION MODULE SERIES

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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CE 014 296

FOREWORD

This module is one of a series of 100 performance-based teacher education (PBTE) learning packages focusing upon specific professional competencies of vocational teachers. The competencies upon which these modules are based were identified and verified through research as being important to successful vocational teaching at both the secondary and post-secondary levels of instruction. The modules are suitable for the preparation of teachers in all occupational areas.

Each module provides learning experiences that integrate theory and application; each culminates with criterion referenced assessment of the teacher's performance of the specified competency. The materials are designed for use by individual or groups of teachers in training working under the direction and with the assistance of teacher educators acting as resource persons. Resource persons should be skilled in the teacher competency being developed and should be thoroughly oriented to PBTE concepts and procedures in using these materials.

The design of the materials provides considerable flexibility for planning and conducting performance-based preservice and inservice teacher preparation programs to meet a wide variety of individual needs and interests. The materials are intended for use by universities and colleges, state departments of education, post-secondary institutions, local education agencies, and others responsible for the professional development of vocational teachers. Further information about the use of the modules in teacher education programs is contained in three related documents: **Student Guide to Using Performance-Based Teacher Education Materials, Resource Person Guide to Using Performance-Based Teacher Education Materials** and **Guide to Implementation of Performance-Based Teacher Education.**

The PBTE curriculum packages are products of a sustained research and development effort by The Center's Program for Professional Development for Vocational Education. Many individuals, institutions, and agencies participated with The Center and have made contributions to the systematic development, testing, revision, and refinement of these very significant training materials. Over 40 teacher educators provided input in development of initial versions of the modules; over 2,000 teachers and 300 resource persons in 20 universities, colleges, and post-secondary institutions used the materials and provided feedback to The Center for revision and refinement.

Special recognition for major individual roles in the direction, development, coordination of testing, revision, and refinement of these materials is extended to the following program staff: James B. Hamilton, Program Director; Robert E. Norton, Associate Program Director; Glen E. Fardig, Specialist; Lois Harrington, Program Assistant; and Karen Quinn, Program Assistant. Recognition is also extended to Kristy Ross, Technical Assistant; Joan Jones, Technical Assistant; and Jean Wisenbaugh, Artist for their contributions to the final refinement of the materials. Contributions made by former program staff toward developmental versions of these materials are also acknowledged. Calvin J. Cotrell directed the vocational teacher competency research studies upon which these modules are based and also directed the curriculum development effort from 1971–1972. Curtis R. Finch provided leadership for the program from 1972–1974.

Appreciation is also extended to all those outside The Center (consultants, field site coordinators, teacher educators, teachers, and others) who contributed so generously in various phases of the total effort. Early versions of the materials were developed by The Center in cooperation with the vocational teacher education faculties at Oregon State University and at the University of Missouri-Columbia. Preliminary testing of the materials was conducted at Oregon State University, Temple University, and University of Missouri-Columbia.

Following preliminary testing, major revision of all materials was performed by Center Staff with the assistance of numerous consultants and visiting scholars from throughout the country.

Advanced testing of the materials was carried out with assistance of the vocational teacher educators and students of Central Washington State College; Colorado State University; Ferris State College, Michigan; Florida State University; Holland College, P.E.I., Canada; Oklahoma State University; Rutgers University; State University College at Buffalo; Temple University; University of Arizona; University of Michigan-Flint; University of Minnesota-Twin Cities; University of Nebraska-Lincoln; University of Northern Colorado; University of Pittsburgh; University of Tennessee; University of Vermont; and Utah State University.

The Center is grateful to the National Institute of Education for sponsorship of this PBTE curriculum development effort from 1972 through its completion. Appreciation is extended to the Bureau of Occupational and Adult Education of the U.S. Office of Education for their sponsorship of training and advanced testing of the materials at 10 sites under provisions of EPDA Part F, Section 553. Recognition of funding support of the advanced testing effort is also extended to Ferris State College, Holland College, Temple University, and the University of Michigan-Flint.

Robert E. Taylor
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THE CENTER FOR VOCATIONAL EDUCATION
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The Center for Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning and preparation. The Center fulfills its mission by:

- Generating knowledge through research.
- Developing educational programs and products.
- Evaluating individual program needs and outcomes.
- Installing educational programs and products.
- Operating information systems and services.
- Conducting leadership development and training programs.

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Engineering Center
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The American Association for Vocational Instructional Materials (AAVIM) is an interstate organization of universities, colleges and divisions of vocational education devoted to the improvement of teaching through better information and teaching aids.

INTRODUCTION

As a vocational teacher, you are responsible for helping your students achieve entry-level competency in the occupation for which they are preparing. Occupational analyses can reveal what these entry-level competencies are, and courses of study or curriculum guides can indicate what students should be able to do when they leave the program or complete a particular course. However, as you plan the units and lessons which make up the course you are teaching, you will need to be able to translate this information into precise statements describing the knowledge, skills, and attitudes you want your students to achieve—in other words, you will need to be able to write student performance objectives.

In some cases, student performance objectives will already have been written for the course you are teaching. In that case, you have a responsibility as you plan your units and individual lessons to consider the needs, interests, and abilities of your particular students, and to add to, delete from, or revise those student performance objectives to reflect what you know about your students.

This module is designed to give you skill in writing student performance objectives for your vocational program which spell out for you, your students, and prospective employers exactly what is expected of students in that program. In addition, it will give you experience in sequencing student performance objectives to ease student learning.

ABOUT THIS MODULE

Objectives

Terminal Objective: While working in an actual school situation, develop student performance objectives. Your performance will be assessed by your resource person, using the Teacher Performance Assessment Form, pp. 55–56 (*Learning Experience VI*).

Enabling Objectives:

1. After completing the required reading, demonstrate knowledge of the rationale for developing student performance objectives and the characteristics of properly stated objectives (*Learning Experience I*).
2. After completing the required reading, analyze and (if necessary) rewrite given student performance objectives (*Learning Experience II*).
3. After completing the required reading, identify each of the objectives on a given list as being primarily cognitive, psychomotor, or affective (*Learning Experience III*).
4. Using resources which provide vocational program content information, develop student performance objectives in each of the learning domains which contain statements of performance, condition, and criterion (*Learning Experience IV*).
5. After completing the required reading, sequence a given list of student performance objectives (*Learning Experience V*).

Resources

A list of the outside resources which supplement those contained within the module follows. Check with your resource person (1) to determine the availability and the location of these resources, (2) to locate additional references in your occupational specialty, and (3) to get assistance in setting up activities with peers or observations of skilled teachers, if necessary. Your resource person may also be contacted if you have any difficulty with directions, or in assessing your progress at any time.

Learning Experience I

Optional

Reference: Mager, Robert F. *Preparing Instructional Objectives.* Belmont, CA: Fearon Publishers, 1962.

A resource person and/or peers with whom you can meet to discuss or apply the material in the information sheet.

Resources (e.g., curriculum guides, courses of study, textbooks, etc.) in your occupational specialty from which you can obtain student performance objectives to critique.

Learning Experience II

Optional

Reference: Mager, Robert F. *Preparing Instructional Objectives.* Belmont, CA: Fearon Publishers, 1962.

A resource person and/or peers with whom you can meet to analyze additional student performance objectives.

Resources (e.g., curriculum guides, courses of study, textbooks, etc.) in your occupational specialty from which you can obtain student performance objectives to analyze.

Learning Experience III

Optional

Reference: Armstrong, Robert J. *et al. Developing and Writing Behavioral Objectives.* Tucson, AZ: Educational Innovators Press, 1970.

Reference: Bloom, Benjamin S. (Ed.). *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain.* New York, NY: David McKay Company, Inc., 1956.

Reference: Krathwohl, David R.; Benjamin S. Bloom; and Bertram B. Masia. *Taxonomy of Educational Objectives, Handbook II: Affective Domain.* New York, NY: David McKay Company, Inc., 1964.

A resource person and/or peers with whom you can discuss the learning domains.

Learning Experience IV

Required

Resources (e.g., curriculum guides, courses of study, textbooks, etc.) in your occupational specialty to provide content from which you can develop student performance objectives.

A resource person to evaluate your competency in developing well-stated student performance objectives in each of the learning domains.

Learning Experience V

No outside resources

Learning Experience VI

Required

An actual school situation in which you can develop student performance objectives.

A resource person to assess your competency in developing student performance objectives.

This module covers performance element numbers 39, 54 from Calvin J. Cotrell *et al., Model Curricula for Vocational and Technical Education: Report No. V* (Columbus, OH: The Center for Vocational Education, The Ohio State University, 1972). The 384 elements in this document form the research base for all The Center's PBTE module development.

For information about the general organization of each module, general procedures for their use, and terminology which is common to all 100 modules, see About Using The Center's PBTE Modules on the inside back cover.

Learning Experience I

OVERVIEW

After completing the required reading, demonstrate knowledge of the rationale for developing student performance objectives and the characteristics of properly stated objectives.

You will be reading the information sheet, Developing Precise Performance Objectives, pp. 6–8.

You may wish to read the supplementary reference, Mager, *Preparing Instructional Objectives*, pp. 1–24.

You may wish to meet with your resource person and/or peers to further discuss the information in the reading(s).

You will be demonstrating knowledge of the rationale for developing performance objectives and the characteristics of properly stated objectives by completing the Self-Check, pp. 9–11.

You will be evaluating your competency by comparing your completed Self-Check with the Model Answers, pp. 13–14.

Activity

For information concerning why it is important to develop performance objectives and to state these in precise language, read the following information sheet:

DEVELOPING PRECISE PERFORMANCE OBJECTIVES

There once was a teacher who said,
"Writing objectives makes me see red.
I know what to teach
And the students I reach,
So why share what I have in my head?"

To a certain extent the above limerick communicates the feelings that some educators have about student performance objectives. There are demands upon all educators, however, to be accountable for the educational process, and upon vocational educators to be responsive to the needs of the industry for which they are preparing students.

Therefore, it is necessary to **identify** the intended outcomes of the educational process. Performance objectives identify these outcomes.

The need for developing student performance objectives can also be viewed from the perspective of the student, the teacher, and the vocational program. For the vocational **student,** performance objectives provide important information about what is expected of them in the educational program. They provide the information students need to determine what the program involves, and describe the activities which they must accomplish in order to complete the program successfully. The objectives also outline the criteria upon which students' achievement will be measured. Thus, students can determine at any point within the program what they have accomplished and how much remains to be completed. In addition, if a student misses a portion of the program because of illness, he/she can identify what must be done to complete the missed work. Or, if a student has previous experience in a certain area, he/she can determine what objectives he or she has already achieved and work on those objectives that still need to be accomplished. Another advantage is that once the expected level of performance has been identified for each objective, the additional experience/practice the students may need in order to reach that level can be outlined. Finally, there is considerable evidence to indicate that when students know the objectives of the lesson in advance, their learning is increased.

For the vocational **teacher,** student performance objectives provide the necessary blueprint for the instructional process for which he/she is responsible. Performance objectives should define the skills, knowledge, and attitudes necessary for entry into the occupation. This is helpful because some teachers tend to stress subject matter and skill development in selected areas within the program based on personal preference rather than because the occupation requires that stress (e.g., a typing teacher who devotes much time and energy on speed-building exercises and little time on other aspects of the program). By basing the objectives on the requirements of the occupation for which students are being prepared, the program can be delivered in an organized fashion and the achievement of the necessary skills can be measured.

In terms of the vocational **program,** student performance objectives identify for the industry those skills that graduates of the program can be expected to possess. Clearly stated performance objectives can give a prospective employer a good idea of what a student coming from your program can do. And, as occupational skills change, the objectives can be changed to match the new expectations.

In addition, the development of student performance objectives establishes a base for program evaluation. Questions of whether the graduates will be able to meet the needs of industry can be addressed through the careful examination of how well they are achieving the student performance objectives, rather than through the subjective feelings of individuals involved in the evaluation process.

It is appropriate here also to discuss what student performance objectives do **not** do. Because

performance objectives are written in terms of the student's knowledge, skills, and attitudes, they do not necessarily define the teaching or learning activities which should be used to achieve them. Most performance objectives allow for any number of ways of getting to the final outcome. They define what the outcome must be, but not how to get there. For example, if a performance objective states that "given leaf samples from diseased trees, the student will identify the diseases with 100% accuracy," any number of teaching-learning methods might be used in achieving this objective—a field trip to examine diseased trees, presentations with the overhead projector or flip chart, individual or group study, etc. Some students may learn better through studying written materials; others may need to see and handle a diseased leaf in order to be able to identify the disease.

While performance objectives should define the knowledge, skills, and attitudes which may be achieved within the vocational program, they also allow for other relevant experiences and variations. Not **all** of your students should be expected to achieve all the objectives specified for your program, course, or unit. Students learn, and achieve objectives, at different rates. This is one of the reasons that proper sequencing of objectives is essential—so that a student, even though he or she has not achieved all the course objectives, will still have minimal skills when he/she leaves the program.

Furthermore, there are some objectives that are not as specific as to outcomes as those we have been discussing, yet which have a real place in the vocational program. These are called expressive or experiential objectives. They describe experiences that would be beneficial for students to participate in, but they do not define expected outcomes. For example, you may feel your students should have the experience of listening to a series of talks by members of community civic organizations, without specifying what changes in behavior they should exhibit as a result.

In general, however, student performance objectives define the outcomes of the vocational program so that these outcomes can be understood—understood by students so they can determine exactly what is expected of them; understood by teachers so they can identify what outcomes they are responsible for; and understood by employers and vocational administrators so they can determine if the program is in fact providing the competent human resources needed.

However, in order for student performance objectives to adequately communicate program outcomes, it is essential that the performance be written in such a way that it is **precise** and **measurable.** Certain words commonly used in writing student performance objectives are vague and open to several interpretations depending upon who reads the objective and describes the activity outlined. Such words as "know," "appreciate," and "understand" are vague and leave much more room for interpretation than more precise terms such as "define," "describe," "repair," or "analyze." For example, if you were handed the following objective—"Upon completion of this course, you will know how to repair a radio"—would you know what was involved in this activity? Some of the questions that you would probably ask yourself are—

- Will I have to actually repair the radio or will I only have to describe how it should be done?
- Will I have to locate the problem or will someone else identify the defect so that I can repair it?
- What instruments will I be using?
- What kinds of radios will I "know" how to repair?

As you can see, stating the objectives of an educational program in vague terms requires too much interpretation of what is required of the student. If, instead, you were handed the following objective, would you know what was expected?

> Given a non-functioning radio of either transistor or tube construction, and having previously identified the malfunction, you will repair the radio to manufacturer's specifications using the prescribed tools and equipment available in the laboratory.

Objectives which define the behavior or performance in precise terms ("You will repair . . . ") are open to less interpretation on the part of the student or teacher. The key to whether the statement is vague or precise is the verb (or "action word") used in the statement. Action-oriented verbs are usually more precise and less open to varying interpretations. Many reference materials on writing objectives provide lists of action-oriented verbs.

Following are some examples:

list	weave	expand
compare	match	stamp
select	make	classify
increase	fasten	analyze
identify	pour	construct
adjust	diagram	differentiate
repair	plan	print
paint	display	
manipulate		

The well-written student performance objective not only specifies the **action** to be taken. It includes the **condition** under which the student will be accomplishing the performance ("Given a non-functioning radio . . . ") and the **criteria** which must be met in order to have successfully completed that objective ("to manufacturer's specifications"). The information sheet in Learning Experience II outlines in more detail what is included in each well-stated performance objective. At this point, however, it is essential that you be able to recognize a precise, action-oriented performance statement. The verb will give you the clue.

As you progress through additional modules, you will be writing objectives for various lessons and learning experiences. If you can develop a firm rationale for writing and using objectives, you will find that once they are written, a major part of your instructional planning has been achieved.

For further information on the rationale for developing performance objectives, you may wish to read the supplementary reference, Mager, *Preparing Instructional Objectives*, pp. 1–24.

You may wish to arrange to meet with your resource person and/or peers who are also taking this module. At this meeting you could (1) discuss what you have heard or read about performance objectives, (2) attempt to generate sample objectives for your service area that are precise, or (3) review existing objectives to determine if they are precise and action-oriented.

The following items check your comprehension of the material in the information sheet, Developing Precise Performance Objectives, pp. 6–8.

SELF-CHECK

I. Characteristics:

Place a check (✓) by any of the following statements which accurately describe the characteristics of student performance objectives. If you do **not** check a particular statement, briefly **explain in writing** your reasons for not doing so.

____ 1. Performance objectives are statements of the general intent of the vocational program.

____ 2. Performance objectives provide a basis for the evaluation of the student, the lesson, and the vocational program.

____ 3. Performance objectives outline for teachers how they will teach a particular lesson in the vocational program.

____ 4. Performance objectives describe the scope of the program to students, teachers, employers, administrators, parents, and concerned others.

____ 5. Performance objectives outline what students must achieve in order to exit from the educational program and enter the occupation for which they are preparing.

____ 6. Performance objectives describe for each student just how they will learn that part of the vocational program.

II. Rationale:

You have been asked by your vocational administrator to attend a meeting in which performance objectives will be discussed. In talking with several of the new faculty, you have discovered that they do not see the need for writing performance objectives. Outline briefly some of the critical points you would make in this meeting in order to indicate to the new faculty why performance objectives lead to more effective learning.

III. Objectives:

Following is a list of statements (the term "statements" is used in that all components of a well-stated performance objective may not be present). Place a check (✓) in front of each statement which is precise. For any statement(s) which is vague, rewrite the statement to make it precise.

____ 1. The student will learn the major parts of the internal combustion engine.

____ 2. You will outline the dietary requirements for an adult female who is moderately active.

____ 3. You will be given a list of terms and you will know all terms listed.

____ 4. Upon completion of this course, you will be aware of the reasons for having clean copy in offset master production.

____ 5. The student will read a blueprint.

____ 6. Upon completion of the course in marketing, you will have developed an appreciation of the many people involved in the process of getting goods and services to the public.

____ 7. You will differentiate among at least three varieties of wheat.

____ 8. The student will develop an interest in a health occupations career.

____ 9. Given a garment pattern which has any of five different seam types, and the necessary equipment, the student will stitch all of the seams required in that pattern.

____ 10. The teacher will motivate the student to learn basic metric measurements.

____ 11. After completing the course on basic communication, the student will understand why effective communication is so important.

____ 12. Without aid of references, you will define all terms found in the four automobile manufacturers' guides.

____ 13. The student will analyze a given set of tool specifications to determine their appropriateness for replacing brake shoes.

____ 14. The student will adjust the gap of spark plugs to within .003 of manufacturer's specifications.

____ 15. Given a list of performance statements, you will check (✓) those that are action-oriented (precise).

NOTES

Compare your written responses on the Self-Check with the Model Answers given below. For parts I and III, you should have checked the same statements as those checked in the model responses. For parts I and II, your written responses need not exactly duplicate the model responses; however, you should have covered the same **major** points. For part III, your rewritten statements should closely match the model responses.

MODEL ANSWERS

I. Characteristics

___ 1. Performance objectives are action-oriented statements which describe what the student will be achieving within a given lesson. They are not general in nature, but very **specific** in outlining student action and measurement of student performance.

✓ 2.

___ 3. Performance objectives are written in terms of **student performance.** Therefore, the teacher may select the most appropriate activities to assist the student in achieving a particular objective.

✓ 4.

✓ 5.

___ 6. Performance objectives outline the **outcome** of the learning, but do not necessarily identify how that learning will take place. Students often have some options available to them, the choice of which depends on their own learning style.

II. Rationale

Answers will vary; however, you should have covered the following points:

1. the importance to the student; e.g., performance objectives outline what is required of them to complete the vocational program
2. the importance to the teacher; e.g., performance objectives define what skills, knowledge, and attitudes they will be responsible for helping students acquire
3. the importance to the vocational program; e.g., performance objectives outline for employers and concerned others what can be expected of graduates, and provide the basis for program evaluation
4. the fact that performance objectives outline the required outcomes of the vocational program so that students, teachers, and others know what achievements can be expected

III. Objectives

___ 1. "Learn" is an action-oriented word; however, it is not precise. Restated: "The student will name (identify, point out) major parts of the internal combustion engine."

✓ 2.

___ 3. "Know" is open to interpretation. Are the students simply to memorize the list, or is something more required? Restated: "You will define (match with definitions, describe) terms in a given list."

___ 4. The term "aware of" does not outline what the student will be doing. Restated: " . . . you will list (explain) the reasons for having clean copy in offset master production."

✓ 5.

___ 6. What is meant by "appreciation?" An action verb should have been used. Restated: " . . . you will list the people involved in the process of. . . ," or " . . . you will trace an item from producer to consumer."

✓ 7.

___ 8. What does "develop an interest" mean exactly? How could the "development" of this "interest" be measured? Restated: "The student will choose one of the five health careers available within the cluster;" or "The student will list seven health careers in which he/she is interested."

✓ 9.

___ 10. This statement is teacher-related, and it is not action-oriented. It should be student-oriented and contain an action verb. Restated: " . . . the student will convert a given list of English measures to metric measures."

___ 11. "Understand" is one of those terms which leaves much room for interpretation. Restated: "The student will explain why a given piece of communication is effective or ineffective;" or "The student will list (describe) at least three problems

which may arise when basic communication breaks down."

✓ 12.
✓ 13.
✓ 14.
✓ 15.

LEVEL OF PERFORMANCE: For parts I and III, your checked items should exactly duplicate the model responses. For parts I and II, your written responses should have covered the same **major** points. For part III, your rewritten statements should closely match the model responses. If you missed some points or have questions about any additional points you made, review the material in the information sheet, Developing Precise Performance Objectives, pp. 6–8, or check with your resource person if necessary.

Learning Experience II

OVERVIEW

After completing the required reading, analyze and (if necessary) rewrite given student performance objectives.

You will be reading the information sheet, The Components of a Well-Written Student Performance Objective, pp. 16–23.

You may wish to read the supplementary reference, Mager, *Preparing Instructional Objectives*, pp. 1–60.

You will be analyzing and (if necessary) rewriting given student performance objectives by completing the Analysis Form, pp. 24–26.

You will be evaluating your competency in analyzing and rewriting objectives by comparing your completed Analysis Form with the Model Analysis, pp. 27–28.

You may wish to meet with your resource person and/or peers to review and analyze additional student performance objectives in your occupational specialty.

Activity

For information concerning the components of a well-written student performance objective, read the following information sheet:

THE COMPONENTS OF A WELL-WRITTEN STUDENT PERFORMANCE OBJECTIVE

One of the potentially confusing things about writing objectives is that the term "objective" is used in so many different contexts. In the educational program, objectives are written for the overall educational **program,** for a specific **course,** for **units** of instruction, and for individual **lessons.** In addition, the word "objective" is used in program evaluation and management contexts to describe what the teacher (or worker) should accomplish during a specific period of time in relation to a group of students or other people. Some individuals use the term "objective" inappropriately to describe broad program goals or general intents of the educational program. To a certain extent, this variety of usage is understandable in that the word "objective" by definition means "an end of action."

Another source of confusion results from the fact that authors, in defining what components need to be included in a well-stated objective, use different terminology for these components.

Throughout this module and in other modules, we use the term "student performance objective." The term "student performance objective" refers to an action-oriented statement describing what is to be achieved by the students of a vocational program. Such statements always include three components: performance, condition, and criterion.

Performance Component

The **performance** part of an objective describes what the student will be doing. It must contain an **action verb.** Each of the enabling objectives contained in this module describes the performance to be achieved using an action-oriented verb (underlined below).

- demonstrate knowledge of the rationale for developing student performance objectives and the characteristics of properly stated objectives
- analyze and rewrite given student performance objectives
- identify each of the objectives on a given list as being primarily cognitive, psychomotor, or affective
- develop student performance objectives in each of the learning domains which contain statements of performance, condition, and criterion
- sequence a given list of student performance objectives

The terms "action required" and "activity" also have been used to describe this component.

Condition Component

The **condition** part of the objective outlines the circumstances under which the student will be required to perform the activity. This portion of the objective describes (1) what equipment, supplies, or materials the student will be given to work with; (2) what materials the student will be denied access to; (3) what setting the performance must be demonstrated in; (4) what information the student may be provided that will direct the action in a certain way; and/or (5) what amount of time will be allowed for the performance to be accomplished.

Sample 1 shows some examples of conditions which might be included within each of these general categories. Stating the condition as "upon completion of the unit" may be convenient, but it probably ignores the actual, specific circumstances under which the student will be performing a particular activity. Hence, such condition statements may be neither accurate nor helpful.

Other words which have been used to describe this component are "givens" or "context."

Criterion Component

The **criterion** part of the performance objective describes the level of mastery or degree of proficiency that must be reached in carrying out the performance; in other words, how well the student must be able to do the job. The criterion tells the student (and teacher) what level of performance is required in order for the performance objective to be achieved.

This part of the objective is probably the most difficult to write, but once done, it also provides information necessary for planning how to evaluate student performance. There are several ways in which the criterion may be established, including (1) accuracy within a tolerance limit, (2) speed, (3) percent or number to be achieved, (4) reference to other material which identifies specific criteria, (5) maximum number of permissable errors, (6) degree of excellence, or (7) any combination of these criteria. Sample 2 shows some examples of criteria which might be included within each of these general categories.

As you can see in Sample 2, the criterion may be stated in many ways so long as it specifies a realistic level to be achieved. As in writing conditions, there is a quick way of defining criteria: "with 80% correct." This is not an appropriate criterion in most cases, however. The level of performance required should be based on specific criteria relating to a particular performance under particular conditions, rather than on an arbitrary percentage.

"Ah Ha!" you say. "There are those educators again telling us what to do and not doing it themselves. This module's enabling objectives do not include criterion statements." You are right in that the enabling objectives, as they appear in the Overviews, do not define the criteria for achievement. However, the criterion for each objective is defined in the feedback activity in each learning experience. It is possible to provide the criterion other than within the performance objective statement itself . . . if you let students know where they can find the necessary information describing the level that must be achieved.

Until you have gained experience in writing objectives, however, it is suggested that you include the criterion within the performance objective statement. Once you are thoroughly competent in writing student performance objectives, you will find that there are many ways that clear and complete objectives can be written without including all components within a single statement.

Other terms which have been used are "mastery level" or "standard."

SAMPLE 1

CONDITION STATEMENTS

CATEGORY	EXAMPLES OF CONDITIONS
Equipment, supplies, or materials which the student is given to work with	• Having available all equipment within the electronics laboratory . . . • Given a set of blueprints . . . • Provided access to all references and materials in the DE store . . . • Given a list of performance objectives . . . • Using curriculum guides which provide program content information . . .
Materials to which the student is denied access	• Without aid of references . . . • Using only those materials provided . . . • Having available only that equipment which has been set up . . .
Environment in which the performance must be demonstrated	• In an actual school situation . . . • In a simulated classroom or laboratory situation . . . • While in the hospital or nursing home . . . • Using the fully functioning school auto mechanics laboratory . . .
Information that the student may be provided that will direct the action in a certain direction	• Given a written situation involving a family with ethnic eating patterns . . . • Provided two lists—one of terms and another of definitions . . . • Using a case study provided by the teacher . . .
Specification of the time in which the performance should be accomplished	• Upon completion of the course in sales . . . • After completing the required reading . . .

SAMPLE 2

CRITERION STATEMENTS

GENERAL CATEGORY	EXAMPLES OF CRITERION
Accuracy within a tolerance limit	• within ± .1 degree as compared with the instructor's reading • with a tolerance of ± .001 inch as measured by a micrometer
Speed	• completed within five minutes • ready for return to the customer within 24 hours of drop off
Percent or number to be achieved	• with 80% correct responses • two out of the three items must meet criteria for the "finished product" • all information necessary for a dental history is recorded • at the rate of five per hour
Reference to other material which identifies specific criteria	• as compared to the manufacturer's specifications • using the evaluation guide which outlines specific criteria for table setting • according to class handout in communication skills • according to the criteria outlined in the text • according to office procedures • based upon the criteria specified in the assessment instrument
Maximum number of permissible errors	• with no more than two errors • with no more than one of the total items not meeting "standards" • missing no more than one reading/recording within a two hour period

Degree of excellence	• so that the shine will reflect a piece of paper • such that the seam will not split when the two pieces of material are jerked sharply • so that when the weld is submitted to a stress machine it will withstand 100 pounds of pressure • all criteria must be achieved at the good or excellent level • with no hair visible in the operating field
Or any combination	• the above criteria can be combined to further define the level of achievement necessary

Complete Statements

Each of these three components should be present or otherwise referred to in a well-stated student performance objective. Let's take a look at some student performance objectives and examine these components in more detail. See if you can identify the performance, condition, and criterion for the following student performance objectives:

> Given a case situation involving a family with ethnic eating patterns, and the necessary meal planning guides, you will plan a balanced diet for that family which will meet basic nutritional standards and take into account the family's eating patterns.

You should have identified the **condition** as "Given a case situation involving a family with ethnic eating patterns and the necessary meal planning guides . . . " You should have identified the **performance** as " . . . you will plan. . . ," and the **criterion** as " . . . a balanced diet for that family which will meet basic nutritional standards and take into account the family's eating patterns."

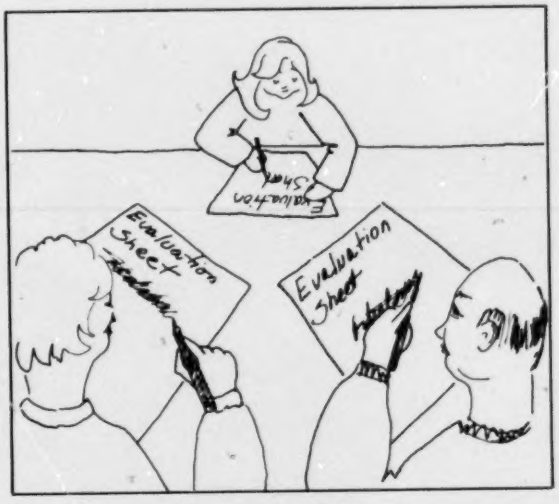
This is a rather involved performance objective. The condition includes two different items, and the criterion includes three different items to consider in determining whether the student has achieved the objective. What about the next objective—can you identify the components?

> Upon completion of the unit in basic architectural drafting, you will be able to make working drawings of any of the designs covered in class with 100% accuracy.

This objective contains all the components of a well-stated objective, but does the objective really tell the students under what conditions they will be "drawing"? What does the 100% mean? It really isn't enough to write student performance objectives which contain all of the necessary components if they are misleading for the teacher or student. Probably, the student would be given specifications to work from, along with the necessary drafting tools and material. The criterion for acceptable performance should outline the specific characteristics the finished drawings must have or refer the student to an established set of criteria. A more realistic objective might be—

> Given a set of building specifications for any of the basic designs covered in class, you will make a set of working drawings of that building using any materials/supplies needed so that the drawings contain all of the characteristics outlined in the evaluation sheet.

This is a realistic objective even if it does not specifically outline the criteria to be used in judging the finished drawings. Since this objective would probably be completed toward the end of the unit, it would not be efficient to list all of the criteria to be considered. You would, however, need to provide the students access to, or copies of, the evaluation sheet which would outline the specific criteria to be met by the completed drawings.



Level of Specificity Required

The level of specificity required of good student performance objectives depends, in part, on the level for which they are being written. One of the criticisms of performance objectives has been that they are often too specific. In many cases, objectives written for **lesson** plans are very specific because they cover only a small part of the educational program. However, performance objectives written for **units** or **courses** are usually much broader in scope, covering a wider range within the educational program. Sample 3 shows an example of a sequence of student performance objectives that might be developed for an Operating-Room Technician Program.

As you can see in Sample 3, each of these performance objectives contains the necessary components of a well-stated objective, but there is quite a difference in the scope that each objective covers. In later modules, you will be developing units of instruction and lesson plans which will require you to write student performance objectives. Depending on the scope of the plan, you will need to judge how specific the objective must be to be appropriate. No matter when the objective is to be achieved, however, it must contain statements of the performance to be achieved, conditions under which the student will be working, and the level which must be achieved in order to satisfactorily accomplish that objective.

SAMPLE 3

LEVELS OF OBJECTIVES

General Program Objective	Upon completion of the Operating-Room Technician Program, the student will be able to function in a single scrubbed capacity for any of the "routine" surgical procedures.
Course Objective	Upon completion of the general surgical procedures course, the student will be able to function as first scrub in any "routine" abdominal or peritoneal cases. Evaluation will be done by the supervisory nurse, using clinical evaluation forms.
Unit Objective	Assigned any of the "routine" abdominal cases in the operating room, you will prepare suture, needles, and other supplies for that case and doctor using preference cards. The instructor will check your selection against the cards and procedures.
Lesson Objective	You will list differences between first and second scrub responsibilities. Your list will be compared with the list outlined in class. OR Given the necessary equipment and supplies for major surgery, you will set up the backtable for the procedure according to clinical procedure and without contamination.

If you have some questions about the component parts of a well-stated student performance objective, you may wish to read the supplementary reference, Mager, *Preparing Instructional Objectives*, pp. 1–60. This reference provides some exercises for you to complete to help you recognize and develop well-stated objectives.

The following activity checks your ability to identify the components of a well-stated student performance objective. The list below contains statements which may or may not contain all the components of well-stated student performance objectives. Examine each statement and (1) circle the performance, (2) underline the condition with one line, (3) underline the criterion with two lines, and (4) rewrite any objective which does not contain all three components and/or which contains a component which is vague, inappropriate, or unrealistic. Briefly explain why you rewrote the objective.

ANALYSIS FORM

1. You will grease all critical points outlined by the manufacturer on any automobile coming into the laboratory requiring routine maintenance.

2. Given sample résumés, you will learn how to write one of your own.

3. The student will stitch any of the heavy material garments in such a way that they will pass simulated inspection guidelines.

4. You will calculate the missing value on 80% of the Ohm's law problems which will outline any two of the values for current, voltage, or resistance.

5. Using the form provided, you will critique each of the sales presentations within one-half hour.

6. Given examples of completed auto repair forms, you will price the work using any of the price lists.

7. The student will outline optimum storage requirements for any of the foods in a given list.

8. In an actual school situation, write student performance objectives for a vocational lesson. Your performance will be assessed by your resource person, using the Teacher Performance Assessment Form.

9. Given ten thermometers registering different temperatures, you will read each thermometer with 100% accuracy.

10. You will prepare a soil mixture for potting plants which contains the recommended amounts of each ingredient; the size of the particles should be no more than ⅛ inch in diameter.

Compare your completed written Analysis Form with the Model Analysis given below. Your analysis of the performance objectives as to performance, condition, and criteria should exactly match the model responses. Your rewritten objectives should contain all three components, precisely stated as suggested in the model objectives. Your explanations need not exactly duplicate the model responses; however, you should have covered the same **major** points.

MODEL ANALYSIS

1. **Performance:** you will grease
   Condition: on any automobile coming into the laboratory requiring routine maintenance
   Criterion: all critical points outlined by the manufacturer

2. **Performance:** you will learn how to write your own
   Condition: given sample résumés
   This objective does not contain either a precise statement of performance ("learn how" is vague) or a criterion. It could be written as follows:

   Given sample résumés, you will develop your own résumé which contains all essential elements as identified in the samples.

3. **Performance:** the student will stitch any of the heavy material garments
   Criterion: in such a way that they will pass simulated inspection guidelines
   This objective does not contain the conditions under which the student will be performing. It could be rewritten as follows:

   Given cut pieces of heavy material garments and the necessary patterns, the student will stitch any of the heavy material garments in such a way that they will pass simulated inspection guidelines.

4. **Performance:** you will calculate the missing value of the Ohm's law problems.
   Condition: which will outline any two of the values for current voltage or resistance
   Criterion: on 80%

5. **Performance:** you will critique a sales presentation
   Condition: using the form provided
   Criterion: within one-half hour
   This objective does not contain a precise statement of the conditions under which students will be critiquing. They are told they will be given a form to use, but not whether they will be critiquing a live sales presentation, videotaped presentation, or simulated classroom presentation. In addition, the criterion as stated ("within one-half hour") is not really appropriate. The speed with which the critique is done is not as important as the accuracy of the critique. The objective could be rewritten as follows:

   After viewing a videotaped sales presentation, you will critique the presentation, using the critique form provided. Your critique must match the model critique.

6. **Performance:** you will price the work
   Condition: given examples of completed auto repair forms; using any of the price lists
   This objective does not contain a criterion. How well must the work be priced? This objective could be rewritten as follows:

   Given examples of completed auto repair forms, you will price the work, using any of the price lists, with no more than $1.00 error in ten tabulations.

7. **Performance:** the student will outline storage requirements
   Condition : for any of the foods in a given list
   Criterion: optimum
   If the "optimum" requirements have been defined previously, and the students know where this information is to be found (e.g., handout, reference material), then this objective is complete. The specific guidelines (criterion) could have been mentioned in the objective.

8. **Performance:** write student performance objectives for a vocational lesson
   Condition: in an actual school situation
   Criterion: your performance will be assessed by your resource person, using the Teacher Performance Assessment Form.

9. **Performance:** you will read each thermometer
   Condition: given ten thermometers registering different temperatures
   Criterion: with 100% accuracy

   This objective is complete. However, you may have questioned the appropriateness of the criterion ("with 100% accuracy"). ± .1 degree might be more realistic.

10. **Performance:** you will prepare a soil mixture for potting plants
    Criterion: which contains the recommended amounts of each ingredient; the size of the particles should be no more than ⅛ inch in diameter

    This objective does not contain a statement of the conditions under which students will be working. What will they be given to work with? This objective could be rewritten as follows:

    Using the soil (materials) available in the horticulture room, you will prepare a soil mixture for potting plants which contains the recommended amounts of each ingredient; the size of the particles should be no more than ⅛ inch in diameter.

LEVEL OF PERFORMANCE: Your analysis of the objectives should have exactly duplicated the model responses. Your rewritten objectives should contain all three components and be precisely stated. Your explanations should cover the same **major** points as the model objectives. If you missed some points or have questions about any additional points you made, review the material in the information sheet, The Components of a Well-Written Student Performance Objective, pp. 16–23, or check with your resource person if necessary.

You may wish to meet with your resource person and/or other peers taking this module to review a list of student performance objectives in your occupational specialty and use the keying symbols from the Analysis Form, pp. 24–26, to analyze these objectives. Your resource person can help you find objectives, and most curriculum guides in your occupational speciality will contain objectives you can use.

Learning Experience III

OVERVIEW

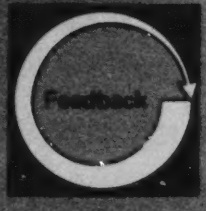
After completing the required reading, identify each of the objectives on a given list as being primarily cognitive, psychomotor, or affective.

You will be reading the information sheet, Performance Objective Domains, pp. 31–37.

You may wish to read the supplementary references, Armstrong, *Developing and Writing Behavioral Objectives*, pp. 24–37; Bloom, *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain*; and/or Krathwohl, *Taxonomy of Educational Objectives, Handbook II: Affective Domain.*

You may wish to meet with your resource person and/or peers to discuss the reading(s), or to further clarify which performances in your service area would be included in each of the domains.

You will be identifying student performance objectives as being cognitive, psychomotor, or affective by completing the Domain Identification Form, pp. 39–40.



You will be evaluating your competency in identifying the domains in which each of the student performance objectives belong by comparing your completed Domain Identification Form with the Model Identification Form, p. 41.

You may wish to try to identify the general taxonomic level of each objective.

Activity

For information about the domains of performance objectives and the taxonomic levels within each domain, read the following information sheet:

PERFORMANCE OBJECTIVE DOMAINS

Another dimension of writing student performance objectives is the different types of performances which can be specified. Just as your own behavior patterns are made up of different types of activities, so are the objectives which must be achieved in order for the student to leave a program and go into the occupation for which he/she is being prepared. These activities include knowing certain information (classified as the cognitive domain), performing certain physical skills (classified as the psychomotor domain), and exhibiting certain personal qualities or attitudes (classified as the affective domain).

As a vocational teacher, you will need to be able to develop objectives which emphasize the cognitive, psychomotor, and/or affective domains. Each of these domains has certain characteristics. Let's take a detailed look at each domain and at some of the performances, conditions, and criteria which might be appropriate for each.

Cognitive Domain

The **cognitive domain** includes those performances which require knowledge of specific information; e.g., the principles, concepts, and generalizations necessary for problem solving. Examples of cognitive performances are—

- define the terms
- critique the presentations
- develop your own résumé
- identify given objectives as being primarily cognitive, psychomotor, or affective

Conditions (circumstances under which such performances would be accomplished) could be any situation in which the student is given information to process—

- given a list of terms
- after viewing videotaped lesson presentations
- given sample résumés
- given a list of student performance objectives

Criteria within the cognitive domain will usually call for accuracy of the information to a certain standard, or will make reference to other material. These could include—

- with 80% correct responses
- according to criteria contained in the text
- compared to a model

Psychomotor Domain

The **psychomotor domain** measures the skill performance of the student and, therefore, the performance required will involve the manipulation of objects, tools, supplies, or equipment. Performances which are primarily psychomotor include—

- typing a letter
- constructing a wall
- wiring a plug
- developing an x-ray
- plowing a field
- using an adding machine
- making a buttonhole
- coloring hair

Since students will be manipulating something such as tools, equipment, supplies, or machinery, the conditions for the psychomotor objective will need to describe the necessary materials or environment, such as—

- in a simulated office situation
- given necessary blueprints and construction materials drawn from the storeroom
- for any non-functioning radio brought into the shop
- following film exposure
- for any field with no more than 5° slope

Similarly, the criterion for the achievement of a psychomotor objective will relate to the actual performance or the finished product and to the necessary level of performance that must be achieved. Appropriate criteria for objectives in the psychomotor domain might involve accuracy within a certain tolerance limit, speed, degree of excellence, or reference to other material outlining the criteria for judgment. Examples of such criteria might include—

- at 50 words per minute with no more than two errors
- so that the wall meets criteria specified within the blueprint and will pass inspection by the instructor using the "wall construction criteria checklist"
- according to manufacturer's specifications
- to a .001 inch tolerance as measured by a micrometer
- according to the procedure outlined
- so that the shine will reflect a piece of paper

Affective Domain

In the **affective domain,** the performance required involves the demonstration of feelings, attitudes, or sensitivities toward other people, ideas, or things. For example, the student might be asked to—

- demonstrate an increased awareness
- show concern for safety within the laboratory
- display a concerned attitude toward frightened patients
- take more responsibility for his/her learning

The conditions under which these feelings or attitudes will be demonstrated are situations in which students can demonstrate beginning understandings of the necessary attitudes required in the occupation. Examples of condition statements might include—

- upon completion of the unit on personnel relations
- at all times within the laboratory
- in the actual work situation

In the affective domain, since feelings are not directly measurable, the criterion for achievement of an objective calls for **behavior** which demonstrates that a feeling or attitude is present. Therefore, both the criterion and the performance statement will contain an action word or verb. Examples of such criteria are:

- stays with an apprehensive patient during examination or sees that someone else will be present
- reports a hazardous condition in the laboratory
- participates in class discussion voluntarily or "takes on" an individual project without being asked

You may have heard that objectives within the affective domain are difficult to write because feelings and attitudes are not easy to measure. One of the reasons that objectives in the affective domain are difficult to measure is that people show feelings and attitudes in many different ways. Think of a point in your life during which you were upset about something. Did all of your friends and acquaintances react to your unsettled condition in the same way? Probably some asked you outright what was wrong. Others may not have asked, but made themselves available to you when you were ready to talk about the problem. Still others may have indicated to you in other ways that they realized you were upset, but would wait for you to take the initiative in making your feelings known.

Similarly, we do not expect all students to exhibit the same behavior in demonstrating the necessary attitudes for an occupation. Rather, the vocational teacher is more concerned that all students can function appropriately, based on their own individuality, in the actual work situation. As you begin to write affective objectives ask yourself the following two questions:

1. Are these feelings or attitudes which are really required at entry level by the industry for which I am preparing my students, or are these attitudes I feel the students should possess?
2. If I were watching someone who possessed this feeling or attitude, what type of behavior might I expect him/her to exhibit?

In many cases the answer to the first question will be that the teacher is making unrealistic demands in terms of actual entry-level requirements.

In answering the second question, think about the behavior patterns you might expect in a particular situation; e.g., how does an individual who respects his/her co-workers behave in the work situation? Then, provide a variety of options for students to demonstrate, in their own way, that they have the necessary attitudes and feelings to exhibit the desired behavior.

Selecting the Domain

It should be noted that few objectives are purely cognitive, psychomotor, or affective. The major criterion in determining the domain in which an objective belongs is the **primary** performance called for—if it relates primarily to **knowing** about the subject, it is cognitive; if it relates primarily to **skill** development, it is psychomotor; and if it relates primarily to **feelings/attitudes,** it is affective.

Taxonomic Levels

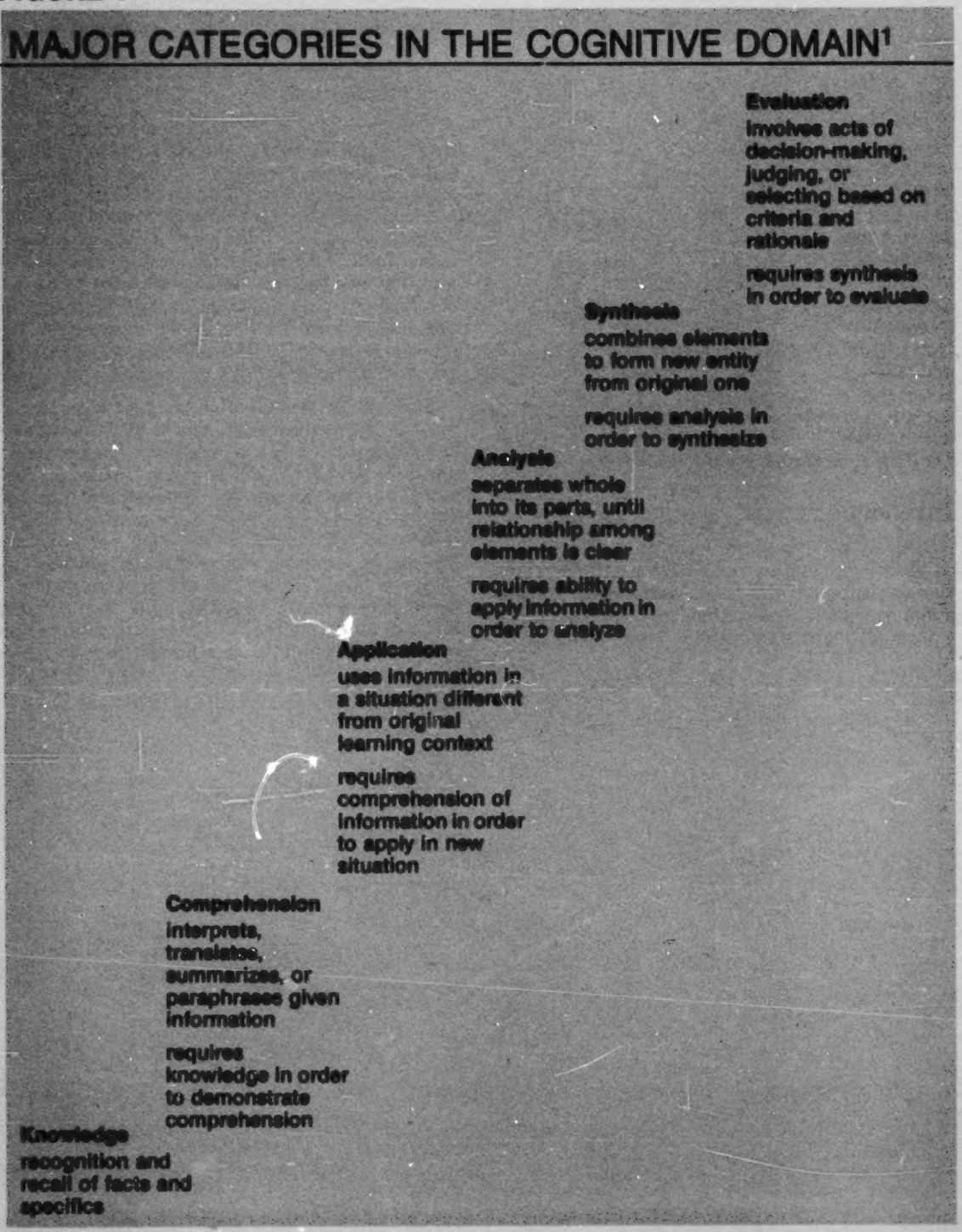
Different performances have been identified as being primarily cognitive, psychomotor, or affective, but there are also levels within each of these domains which move from very simple performances to the more complex. These levels taken as a whole are termed a "taxonomy." This information sheet will deal only with the major categories within each of the domains, but you may wish to explore some of the supplementary references listed in this learning experience for more detail about these levels.

The taxonomy in the cognitive domain moves from the lowest level of knowledge (that of simple remembering or recall) to the more complicated thinking processes required for evaluation. Figure 1 shows the differing levels within the cognitive domain. As you will note, each of the higher levels within the chart requires that the lower levels be met first in order for the higher level to be accomplished. In other words, in order to reach the application level (i.e., to apply knowledge), the student must first possess the basic knowledge and also comprehend it.

Similarly, the levels within the psychomotor domain progress from simple skills to complex skill development in which several tasks are integrated into a coordinated whole. In one taxonomy, the more complex motor skill is developed through stages—from the imitation of a model to the point at which performance of the skill becomes automatic or habitual. Figure 2 illustrates this development. As you can see, each successive level within the domain requires more complicated forms of psychomotor skills and/or a combination of several skills into a coordinated sequence.

FIGURE 1

MAJOR CATEGORIES IN THE COGNITIVE DOMAIN[1]


Evaluation
involves acts of decision-making, judging, or selecting based on criteria and rationale
requires synthesis in order to evaluate
Synthesis
combines elements to form new entity from original one
requires analysis in order to synthesize
Analysis
separates whole into its parts, until relationship among elements is clear
requires ability to apply information in order to analyze
Application
uses information in a situation different from original learning context
requires comprehension of information in order to apply in new situation
Comprehension
interprets, translates, summarizes, or paraphrases given information
requires knowledge in order to demonstrate comprehension
Knowledge
recognition and recall of facts and specifics

1. Benjamin S. Bloom (Ed.), *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain* (New York, NY: David McKay Company, Inc., 1956).

FIGURE 2

MAJOR CATEGORIES IN THE PSYCHOMOTOR DOMAIN[2]

Naturalization
completes one or more skills with ease and becomes automatic with limited physical or mental exertion

Articulation
combines more than one skill in sequence with harmony and consistency

Precision
reproduces a skill with accuracy, proportion, and exactness; usually performed independent of original source

Manipulation
performs skill according to instruction rather than observation

Imitation
observes skill and attempts to repeat it

2. R. H. Dave, as reported in Robert J. Armstrong *et al.*, *Developing and Writing Behavioral Objectives* (Tucson, AZ: Educational Innovators Press, 1970).

The affective domain also includes levels, but instead of the development from simple to complex found in the cognitive and psychomotor domains, each succeeding level involves more internalization of the feeling or attitude; i.e., the behavior becomes a part of his/her total way of responding. In the lower levels of the domain, therefore, the student is simply provided with the necessary information with which to know what an appropriate response is, and is only required to passively attend (be aware of) that information. The highest level within the affective domain is achieved when the student or worker has internalized the information. Figure 3 outlines the development within the affective domain.

The taxonomies within the cognitive, psychomotor, and affective domains provide a method by which vocational teachers can organize or sequence the objectives for their particular instructional units and lessons. By identifying the domain in which the objective belongs and the taxonomic level of the objective, it is possible to develop instruction in such a way that lower-level objectives within each of the domains are achieved before the student progresses to higher-level ones. In most cases, the higher-level objectives will be reached toward the end of a particular unit or toward the end of the vocational program.

One word of caution—it may not be possible or desirable within the time frame of your vocational program to develop all cognitive, psychomotor, or affective objectives through the highest level of each domain. For example, some of the very early motor skills may be developed to a naturalization level (done automatically and with ease), but it would not be possible or even realistic to expect all skills to be developed to this level. Similarly, in the affective domain it may not be possible within a vocational program to proceed beyond the valuing level because of the time limits of the program. Furthermore, it may not be appropriate to expect students to develop certain feelings or attitudes beyond valuing them appropriately in the work situation.

In all cases, the key as to what level is necessary within your vocational program is the level required by the industry for which you are preparing students. You may only be able to prepare your students to respond in the appropriate manner; the industry would then take over so that over a much longer period of time the behavior becomes a consistent and internalized response. This is one of the reasons that developing objectives is a time consuming task—not only do you have to be able to write the objectives, but you must ask yourself whether these objectives are appropriate for the level of the program offered and the students entering it.

In order to define the vocational program so that the student will be able to leave the program and enter the occupation for which he/she is preparing, objectives should be written in all domains. Knowledge of information is necessary; therefore, cognitive objectives must be written. Skill is important; therefore, psychomotor objectives must be written. And, attitudes and feelings are important; therefore, affective objectives must be written. Of course, most objectives will contain or imply elements of two or all three of the domains.

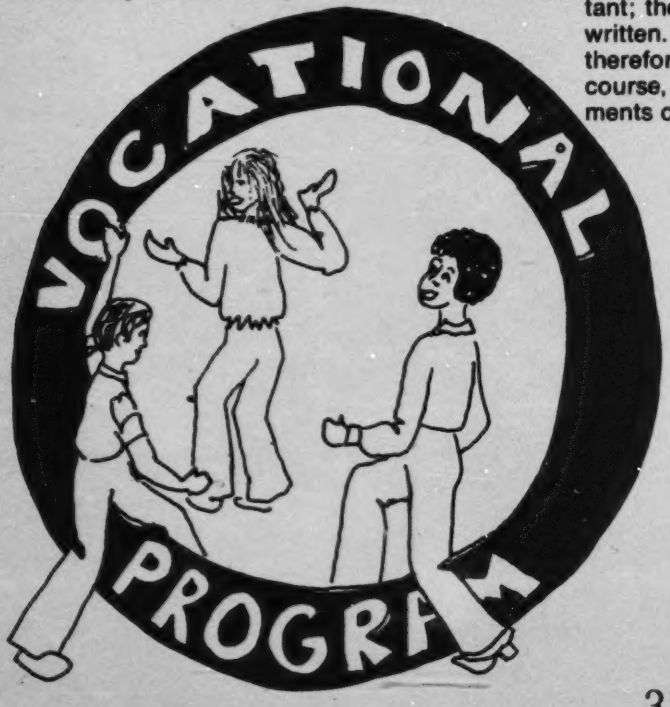
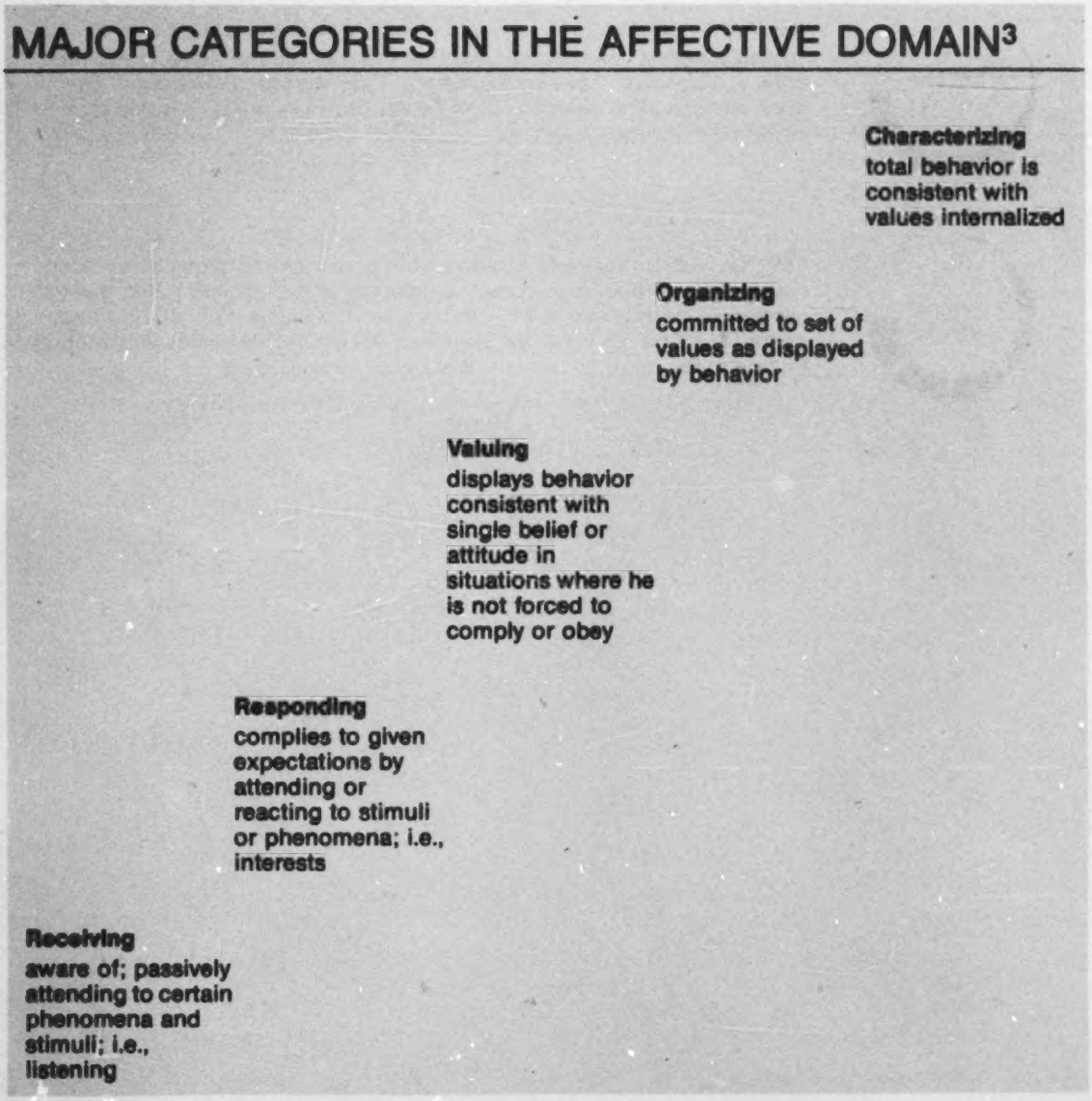


FIGURE 3

MAJOR CATEGORIES IN THE AFFECTIVE DOMAIN[3]


Characterizing
total behavior is consistent with values internalized
Organizing
committed to set of values as displayed by behavior
Valuing
displays behavior consistent with single belief or attitude in situations where he is not forced to comply or obey
Responding
complies to given expectations by attending or reacting to stimuli or phenomena; i.e., interests
Receiving
aware of; passively attending to certain phenomena and stimuli; i.e., listening

3. David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia, *Taxonomy of Educational Objectives, Handbook II: Affective Domain* (New York, NY: David McKay Company, Inc., 1964).

For further information on the domains and the levels within each domain, you may wish to read Bloom, *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain*; Krathwohl, *Taxonomy of Educational Objectives, Handbook II: Affective Domain*; and/or Armstrong, *Developing and Writing Behavioral Objectives*, pp. 24–37.

You may wish to meet with your resource person or with peers who are also taking this module to discuss the different domains. You could discuss specific performances from your own service area which would fit each domain. Or, you could review objectives in curriculum guides and attempt to categorize them by domain and by taxonomic level.

The following activity checks your comprehension of the material in the information sheet, Performance Objective Domains, pp. 31–37. Each of the following objectives is primarily cognitive (C), psychomotor (P), or affective (A). Read each student performance objective, and indicate its primary domain by placing the appropriate letter (C, P, or A) in the blank to the left of the item.

DOMAIN IDENTIFICATION FORM

___ 1. Following a demonstration of techniques for stitching heavy materials, you will stitch given materials so that they will pass simulated inspection guidelines.

___ 2. Given samples of various legume seeds, you will identify each by name.

___ 3. Upon completion of the section on alternatives in business careers, the students will have increased their awareness of options available to them, as demonstrated by their being able to identify 50% more of the opportunities on the post-test than on the pretest.

___ 4. You will define 90% of the editing symbols on a given list.

___ 5. On the assigned hospital ward, you will transfer doctors' orders to the appropriate forms for those orders. All forms must meet a "satisfactory" rating on the critical points outlined on the clinical evaluation form.

___ 6. Given ten lists of from 4 to 15 three-digit numbers, you will calculate totals for the lists on any of the four makes of adding machines found in the simulated office practice laboratory.

___ 7. You will specify any missing or incomplete information on the five completed short-term loan contracts provided.

___ 8. In the clinical setting, you will demonstrate concern for apprehensive patients by—
- answering call lights promptly
- staying with an apprehensive patient or seeing that someone will be present
- talking with the patient about the apprehension and answering questions about the unknown
- explaining all procedures before using them with patients

___ 9. You will calculate the missing value on 80% of a given list of Ohm's law problems which contain any two of the values for current, voltage, or resistance.

___ 10. Provided the necessary soil test data and necessary crop information, you will determine the kinds of nutrients to be applied to the soil to grow a crop.

___ 11. Using a soil survey report, determine the quantities of nutrients needed and outline the rationale for your decision using previous crop and test information.

___ 12. The student, when confronted with a safety hazard, will demonstrate concern for safety practices by—
- pointing out safety hazards to others
- turning off all machinery when it is not being used by self or others
- observing all caution signs

___ 13. Given ten shafts with differing measurements, you will measure the diameter of each with a micrometer within ±.001 inch of the instructor's measurement.

___ 14. You will compose a résumé which outlines your qualifications for a given job and contains all the components identified in the lesson on writing résumés.

___ 15. You will change any cash register tape within two minutes so that the register is ready for tabulation.

___ 16. When confronted with a situation requiring the clarification of instruction you will ask for clarification before proceeding.

___ 17. Given a written situation involving the adaptation of basic procedures, you will outline the method you would use to accomplish the task within the restrictions established.

___ 18. After reviewing a videotaped sales presentation, you will critique the presentation using the outline form provided. Your critique must match the model on all critical points identified.

____ 19. You will grease all critical points outlined by the manufacturer on any car coming into the auto mechanics laboratory requiring routine maintenance.

____ 20. You will identify the objectives on a given list as primarily cognitive, psychomotor, or affective.

Compare your written responses on the Domain Identification Form with the Model Identification Form given below. Your responses should exactly duplicate the model responses.

MODEL IDENTIFICATION FORM

1. Psychomotor
2. Cognitive
3. Affective
4. Cognitive
5. Cognitive
6. Psychomotor
7. Cognitive
8. Affective
9. Cognitive
10. Cognitive
11. Cognitive
12. Affective
13. Psychomotor
14. Cognitive
15. Psychomotor
16. Affective
17. Cognitive
18. Cognitive
19. Psychomotor
20. Cognitive

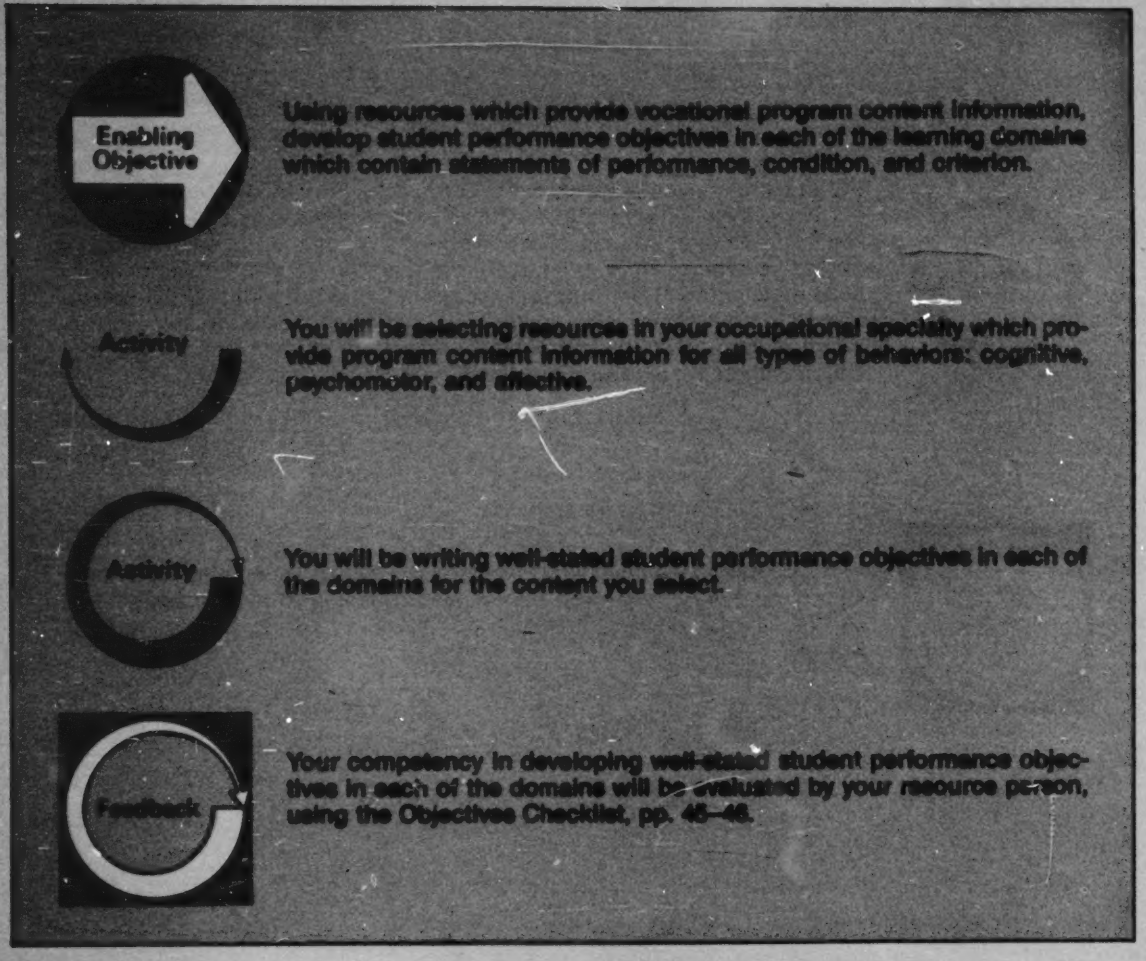
LEVEL OF PERFORMANCE: Your completed Domain Identification Form should have matched the model responses exactly. If you missed an item, review the material in the information sheet, Performance Objective Domains, pp. 31–37, or check with your resource person if necessary.

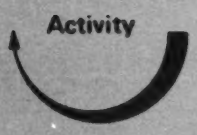
You may wish to go through the list of objectives again, identifying the general taxonomic level of each objective. Refer to Figures 1, 2, and 3, or to the supplementary readings listed in this learning experience if you need help. If you still have questions about the level(s) to which an objective belongs, check with your resource person.

NOTES

Learning Experience IV

OVERVIEW


Enabling Objective
Using resources which provide vocational program content information, develop student performance objectives in each of the learning domains which contain statements of performance, condition, and criterion.
Activity
You will be selecting resources in your occupational specialty which provide program content information for all types of behaviors: cognitive, psychomotor, and affective.
Activity
You will be writing well-stated student performance objectives in each of the domains for the content you select.
Feedback
Your competency in developing well-stated student performance objectives in each of the domains will be evaluated by your resource person, using the Objectives Checklist, pp. 45–46.



Select resources in your occupational specialty which will provide vocational program content information for knowledge, skill, and attitude types of performances. Resources could include curriculum guides, courses of study, textbooks, or task analyses. The resources you select should cover all domains. If you need assistance in finding resources, contact your resource person.

For the content you selected, write student performance objectives in the cognitive, psychomotor, and affective domains. Write at least ten cognitive, five psychomotor, and five affective objectives, numbering each objective for easy reference during feedback. Be sure that (1) each objective contains statements of performance, condition, and criterion, (2) the performance is stated precisely, and (3) the condition and criterion are realistic. When writing the cognitive objectives, include at least three objectives which call for more than mere recall.

After you have developed your student performance objectives, arrange to have your resource person review and evaluate your objectives. Give him/her the Objectives Checklist, pp. 45–46, to use in evaluating your work.

OBJECTIVES CHECKLIST

Directions: Place an X in the YES or NO box to indicate whether all objectives met or did not meet each applicable criterion. For any objective(s) which did not meet a criterion, specify the number(s) of the objective(s) in the space provided for comments.

Name _____

Date _____

Resource Person _____

	Yes	No	Comments
The cognitive objectives meet the following criteria:			
1. The performance is specified	☐	☐	
2. The performance is stated in action-oriented terms	☐	☐	
3. The primary performance called for relates to the demonstration of knowledge	☐	☐	
4. The condition is specified	☐	☐	
5. The condition is realistic	☐	☐	
6. The criterion is specified	☐	☐	
7. The criterion is realistic	☐	☐	
8. At least three objectives call for more than mere recall	☐	☐	
The psychomotor objectives meet the following criteria:			
9. The performance is specified	☐	☐	
10. The performance is stated in action-oriented terms	☐	☐	
11. The primary performance called for relates to the demonstration of skill	☐	☐	
12. The condition is specified	☐	☐	
13. The condition is realistic	☐	☐	
14. The criterion is specified	☐	☐	
15. The criterion is realistic	☐	☐	
The affective objectives meet the following criteria:			
16. The performance is specified	☐	☐	
17. The performance is stated in action-oriented terms	☐	☐	
18. The primary performance called for relates to demonstration of attitudes/feelings	☐	☐	
19. The condition is specified	☐	☐	
20. The condition is realistic	☐	☐	

	Yes	No	Comments
21. The criterion is specified	☐	☐	_____
22. The criterion is realistic	☐	☐	_____
23. The feelings/attitudes called for are realistic in terms of entry-level requirements of the industry	☐	☐	_____

LEVEL OF PERFORMANCE: All items must receive YES responses. If any item receives a NO response, review the readings in previous learning experiences, pp. 6–8, 16–23, and 31–37, revise the objective(s) accordingly, or check with your resource person if necessary.

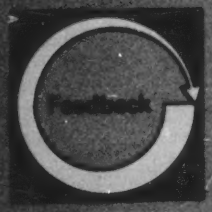
Learning Experience V

OVERVIEW

After completing the required reading, sequence a given list of student performance objectives.

You will be reading the information sheet, Sequencing Student Performance Objectives, pp. 46–49.

You will be logically sequencing the Student Performance Objectives: "Getting a Job," p. 50.



You will be evaluating your competency in sequencing the student performance objectives by comparing your sequence with the Model Sequences, p. 51.

Activity

For information on sequencing student performance objectives, read the following information sheet:

SEQUENCING STUDENT PERFORMANCE OBJECTIVES

The process of sequencing student performance objectives can be compared to the procedures you use in driving your car. There are certain things you must do before others; e.g., you must (1) get into the car, (2) put the key in the ignition, and (3) start the car before you can (4) move. There are other activities which you may not necessarily have to complete in an exact sequence, but which must be performed before you can do something else. For example, in some cars you have to fasten your seat belt before the starter will operate. There are still other activities which can be accomplished in any order; e.g., you probably have a wide choice of roads that you can take to get to any one given destination. Ultimately, the test of whether you have followed a logical sequence of activities is determined by whether or not you arrive at your destination. The process of sequencing objectives is very similar.

Sequencing objectives provides your students with a logical order to follow in completing the activities which will develop the necessary knowledge, skills, and attitudes. The ultimate goal is that of exit from the program and entry into the occupation for which they are preparing. To reach that goal, certain objectives must be accomplished before others. The major consideration when sequencing objectives is that there is a logical development of skills, attitudes, and knowledge such that prerequisite objectives are achieved before the culminating ones. Such is the case with the enabling objectives for this module. You must achieve them before you are likely to have the necessary knowledge and skill to meet the terminal objective.

The sequence chosen for this module assumes that the student needs general information about performance objectives (the rationale for writing them, how to differentiate between precise and vague objectives) before the other activities will be effective. Second, the student needs experience (practice) in analyzing simple objectives to determine if each contains statements of performance, condition, and criterion without being concerned about the more complex task of dealing with objectives in the three different domains. Once able to recognize objectives which contain all components, the student can be given information about, and practice in, writing well-stated objectives in each of the domains. The sequencing of student performance objectives logically follows the task of having written them, and all of these experiences culminate in performance in an actual school situation:

1. demonstrate knowledge of the rationale for developing student performance objectives and the characteristics of properly stated objectives
2. identify the performance, condition, and criterion components for given student performance objectives, and rewrite the objectives if necessary
3. indicate whether given objectives are primarily cognitive, psychomotor, or affective
4. write student performance objectives within each domain
5. sequence objectives
6. in an actual school situation, develop student performance objectives

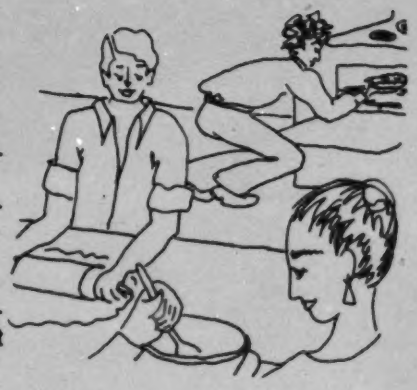
If the objectives had been sequenced as follows, can you tell what the rationale would have been?

1. identify the performance, condition, and criteria components of given student performance objectives
2. indicate whether given objectives are primarily cognitive, psychomotor, or affective
3. write student performance objectives
4. write student performance objectives within each domain
5. sequence objectives

6. develop a rationale for and differentiate between vague and precise objectives
7. in an actual school situation, write and sequence student performance objectives

This is also a logical sequence, one which moves from the specific (parts of an objective, how to write one) to the general (why write objectives, why be precise). Both sequences assume that the student needs knowledge about the components and domains of student performance objectives before he/she can practice writing them, and that practice should precede performance in the real world.

You may decide that your students need to achieve an objective which will catch their interest very early in the program, and sequence the objectives to achieve this. For example, you might sequence baking objectives before other food preparation objectives, on the assumption that many people like sweets and pastries better than vegetables. Or, you may decide that students need some overview of the total subject before you can proceed to specifics and, therefore, your first objective might cover a very broad area.



Or, you may decide that your students need very early success within the program and therefore sequence some easily achieved and interesting objectives first before moving on to more difficult ones. In all cases, the assumption is that a certain sequence of student performance objectives (e.g., simple to complex, known to unknown) makes sense in terms of students' needs and abilities.

The following activity checks your comprehension of the material in the information sheet, Sequencing Student Performance Objectives, pp. 48–49. Logically sequence the following student performance objectives related to a unit on getting a job. Be prepared to explain why you sequenced the objectives as you did.

STUDENT PERFORMANCE OBJECTIVES: "GETTING A JOB"

The student will—

1. explain to a prospective employer in a mock interview why he/she is qualified for the position. The interviewer and the teacher will evaluate the student's response, using the "Interview Rating Checksheet."
2. fill out a job application form completely, accurately, and neatly as judged by a teacher and a representative of the business and/or industrial community.
3. ask questions about benefits and opportunity for advancement and training in a mock interview situation. Evaluation will be made on the basis of peer and teacher feedback on the "Interview Rating Checksheet."
4. dress and groom himself/herself for the job interview to meet acceptable standards as developed by a peer, the teacher, and a representative of the business and/or industrial community.
5. develop a résumé to be used for a job application, which contains all necessary information as outlined in sample résumés.
6. write a letter accepting or not accepting a position. The letter will be evaluated by the teacher using guidelines outlined in class.
7. conduct himself/herself with poise (including manners and posture) in a mock interview situation. The student's poise will be evaluated by a panel of his/her peers.
8. write a letter of job application which meets minimum standards using criteria listed on the "Checksheet."

Compare your completed sequence with the Model Sequences explained below. Your sequence need not exactly duplicate the model sequence(s); however, you should be able to justify any differences.

MODEL SEQUENCES

These objectives could be sequenced in several ways in view of the fact that we do not have data on the interests or abilities of the students taking the unit. Thus, we must look for a logical pattern in the objectives themselves. The objectives all seem to be at about the same level of difficulty or complexity and they do not divide into general and specific objectives.

They do divide, however, into (1) objectives concerning the "paperwork" aspects of getting a job, and (2) objectives concerning behavior during an interview. It would be necessary to have students begin by developing their own résumés, since they need to have a firm fix on their qualifications for employment before they can accomplish most of the other objectives. They could then work on the other "paperwork" objectives in any order, though a "chronological" sequence might make sense. None of the "interview" objectives **must** be accomplished before any of the others—but they would no doubt occur in the same order as they would in an actual interview. The objective concerning poise would be accomplished **simultaneously** with the other "interview" objectives.

Thus, you would have a paperwork sequence (5–2–8–6, or 5–8–2–6) and a behavior sequence (4–1–3, with 7 being accomplished simultaneously with 1 and 3).

The objectives could, of course, be sequenced in a strictly chronological way, as illustrated below:

(5) develop a résumé
(2) fill out a job application form
(8) write a letter of job application
(4) dress and groom for a job interview
(1) explain qualifications in a mock job interview and (7) conduct self with poise
(3) ask questions in a mock job interview and (7) conduct self with poise
(6) write acceptance or non-acceptance letter

LEVEL OF PERFORMANCE: Your completed sequence need not have matched the model(s) exactly; however, you should be able to explain any differences. If your sequence differed from the model(s), arrange to meet with your resource person to justify the sequence you selected.

NOTES

Learning Experience VI

FINAL EXPERIENCE

While working in an actual school situation,* develop student performance objectives.

Develop student performance objectives for a vocational course or unit you are responsible for teaching. This will include—

- developing your own objectives or revising a list of existing objectives specified for the course or unit
- including objectives in each of the learning domains: cognitive, psychomotor, and affective
- including objectives at various appropriate taxonomic levels
- ensuring that each objective includes all three components: performance, condition, and criterion
- sequencing the objectives

After you have developed your sequenced list of student performance objectives, arrange to have your resource person review this list.

Your total competency will be assessed by your resource person, using the Teacher Performance Assessment Form, pp. 65–68.

Based upon the criteria specified in this assessment instrument, your resource person will determine whether you are competent in developing student performance objectives.

*For a definition of "actual school situation," see the inside back cover.

NOTES

TEACHER PERFORMANCE ASSESSMENT FORM

Develop Student Performance Objective (B-2)

Name _____

Date _____

Resource Person _____

Directions: Indicate the level of the teacher's accomplishment by placing an X in the appropriate box under the LEVEL OF PERFORMANCE heading. If, because of special circumstances, a performance component was not applicable, or impossible to execute, place an X in the N/A box.

LEVEL OF PERFORMANCE

	N/A	None	Poor	Fair	Good	Excellent
Components						
1. All objectives contained a statement of performance ...	☐	☐	☐	☐	☐	☐
2. The performance statements contained an action verb .	☐	☐	☐	☐	☐	☐
3. The performance statements described the activity in which the student would be involved in sufficient detail to be understood	☐	☐	☐	☐	☐	☐
4. All objectives contained stated or implied conditions ..	☐	☐	☐	☐	☐	☐
5. The conditions were realistic in terms of the performance called for	☐	☐	☐	☐	☐	☐
6. All objectives specified criteria for achievement	☐	☐	☐	☐	☐	☐
7. The criteria were realistic in terms of the performance required	☐	☐	☐	☐	☐	☐
8. The criteria were realistic in terms of the conditions outlined	☐	☐	☐	☐	☐	☐
Domains						
9. Cognitive domain objectives were included	☐	☐	☐	☐	☐	☐
10. Cognitive objectives which required more than mere recall were included	☐	☐	☐	☐	☐	☐
11. Psychomotor objectives were included	☐	☐	☐	☐	☐	☐
12. Psychomotor objectives were included which required more than mere imitation of the instructor	☐	☐	☐	☐	☐	☐
13. Affective domain objectives were included	☐	☐	☐	☐	☐	☐

	N/A	None	Poor	Fair	Good	Excellent
14. The affective objectives were realistic in terms of occupational requirements	☐	☐	☐	☐	☐	☐
15. The criteria for the affective objectives provided alternative ways for students to demonstrate the feelings/attitudes	☐	☐	☐	☐	☐	☐
Sequencing						
16. The objectives were arranged in a logical sequence	☐	☐	☐	☐	☐	☐
17. The sequence provided for the accomplishment of enabling objectives before terminal ones	☐	☐	☐	☐	☐	☐
18. The sequence facilitated student accomplishment of the objectives	☐	☐	☐	☐	☐	☐

LEVEL OF PERFORMANCE: All items must receive N/A, GOOD, or EXCELLENT responses. If any item receives a NONE, POOR, or FAIR response, the teacher and resource person should meet to determine what additional activities the teacher needs to complete in order to reach competency in the weak area(s).

ABOUT USING THE CENTER'S PBTE MODULES

Organization

Each module is designed to help you gain competency in a particular skill area considered important to teaching success. A module is made up of a series of learning experiences, some providing background information, some providing practice experiences, and others combining these two functions. Completing these experiences should **enable** you to achieve the **terminal** objective in the final learning experience. The final experience in each module always requires you to demonstrate the skill in an actual school situation when you are an intern, a student teacher, or an inservice teacher.

Procedures

Modules are designed to allow you to individualize your teacher education program. You need to take only those modules covering skills which you do not already possess. Similarly, you need not complete any learning experience within a module if you already have the skill needed to complete it. Therefore, before taking any module, you should carefully review (1) the Introduction, (2) the Objectives listed on p. 4, (3) the Overviews preceding each learning experience, and (4) the Final Experience. After comparing your present needs and competencies with the information you have read in these sections, you should be ready to make one of the following decisions:

- that you do not have the competencies indicated, and should complete the entire module
- that you are competent in one or more of the enabling objectives leading to the final learning experience, and thus can omit that (those) learning experience(s)
- that you are already competent in this area, and ready to complete the final learning experience in order to "test out"
- that the module is inappropriate to your needs at this time

When you are ready to take the final learning experience and have access to an actual school situation, make the necessary arrangements with your resource person. If you do not complete the final experience successfully, meet with your resource person and arrange (1) to repeat the experience, or (2) complete (or review) previous sections of the module or other related activities suggested by your resource person before attempting to repeat the final experience.

Options for recycling are also available in each of the learning experiences preceding the final experience. Any time you do not meet the minimum level of performance required to meet an objective, you and your resource person may meet to select activities to help you reach competency. This could involve (1) completing parts of the module previously skipped; (2) repeating activities; (3) reading supplementary resources or completing additional activities suggested by the resource person; (4) designing your own learning experience; or (5) completing some other activity suggested by you or your resource person.

Terminology

Actual School Situation . . . refers to a situation in which you are actually working with, and responsible for, secondary or post-secondary vocational students in a real school. An intern, a student teacher, or an in-service teacher would be functioning in an actual school situation. If you do **not** have access to an actual school situation when you are taking the module, you can complete the module **up** to the final learning experience. You would then do the final learning experience later; i.e., when you have access to an actual school situation.

Alternate Activity or **Feedback** . . . refers to an item or feedback device which may **substitute** for required items which, due to special circumstances, you are unable to complete.

Occupational Specialty . . . refers to a specific area of preparation within a vocational service area (e.g., the service area Trade and Industrial Education includes occupational specialties such as automobile mechanics, welding, and electricity).

Optional Activity or **Feedback** . . . refers to an item which is not required, but which is designed to **supplement** and enrich the required items in a learning experience.

Resource Person . . . refers to the person in charge of your educational program; the professor, instructor, administrator, supervisor, or cooperating/supervising/classroom teacher who is guiding you in taking this module.

Student . . . refers to the person who is enrolled and receiving instruction in a secondary or post-secondary educational institution.

Vocational Service Area . . . refers to a major vocational field: agricultural education, business and office education, distributive education, health occupations education, home economics education, industrial arts education, technical education, or trade and industrial education.

You or the Teacher . . . refers to the person who is taking the module.

Levels of Performance for Final Assessment

N/A . . . The criterion was not met because it was **not applicable** to the situation.
None . . . **No attempt** was made to meet the criterion, although it was relevent.
Poor . . . The teacher is unable to perform this skill or has only **very limited ability** to perform it.
Fair . . . The teacher is unable to perform this skill in an acceptable manner, but has **some ability** to perform it.
Good . . . The teacher is able to perform this skill in an **effective** manner.
Excellent . . . The teacher is able to perform this skill in a **very effective** manner.

Titles of The Center's Performance-Based Teacher Education Modules

Category A: Program Planning, Development, and Evaluation

A–1 Prepare for a Community Survey
A–2 Conduct a Community Survey
A–3 Report the Findings of a Community Survey
A–4 Organize an Occupational Advisory Committee
A–5 Maintain an Occupational Advisory Committee
A–6 Develop Program Goals and Objectives
A–7 Conduct an Occupational Analysis
A–8 Develop a Course of Study
A–9 Develop Long-Range Program Plans
A–10 Conduct a Student Follow-Up Study
A–11 Evaluate Your Vocational Program

Category B: Instructional Planning

B–1 Determine Needs and Interests of Students
B–2 Develop Student Performance Objectives
B–3 Develop a Unit of Instruction
B–4 Develop a Lesson Plan
B–5 Select Student Instructional Materials
B–6 Prepare Teacher-Made Instructional Materials

Category C: Instructional Execution

C–1 Direct Field Trips
C–2 Conduct Group Discussions, Panel Discussions, and Symposiums
C–3 Employ Brainstorming, Buzz Group, and Question Box Techniques
C–4 Direct Students in Instructing Other Students
C–5 Employ Simulation Techniques
C–6 Guide Student Study
C–7 Direct Student Laboratory Experience
C–8 Direct Students in Applying Problem-Solving Techniques
C–9 Employ the Project Method
C–10 Introduce a Lesson
C–11 Summarize a Lesson
C–12 Employ Oral Questioning Techniques
C–13 Employ Reinforcement Techniques
C–14 Provide Instruction for Slower and More Capable Learners
C–15 Present an Illustrated Talk
C–16 Demonstrate a Manipulative Skill
C–17 Demonstrate a Concept or Principle
C–18 Individualize Instruction
C–19 Employ the Team Teaching Approach
C–20 Use Subject Matter Experts to Present Information
C–21 Prepare Bulletin Boards and Exhibits
C–22 Present Information with Models, Real Objects, and Flannel Boards
C–23 Present Information with Overhead and Opaque Materials
C–24 Present Information with Filmstrips and Slides
C–25 Present Information with Films
C–26 Present Information with Audio Recordings
C–27 Present Information with Televised and Videotaped Materials
C–28 Employ Programmed Instruction
C–29 Present Information with the Chalkboard and Flip Chart

Category D: Instructional Evaluation

D–1 Establish Student Performance Criteria
D–2 Assess Student Performance: Knowledge
D–3 Assess Student Performance: Attitudes
D–4 Assess Student Performance: Skills
D–5 Determine Student Grades
D–6 Evaluate Your Instructional Effectiveness

Category E: Instructional Management

E–1 Project Instructional Resource Needs
E–2 Manage Your Budgeting and Reporting Responsibilities
E–3 Arrange for Improvement of Your Vocational Facilities
E–4 Maintain a Filing System
E–5 Provide for Student Safety
E–6 Provide for the First Aid Needs of Students
E–7 Assist Students in Developing Self-Discipline
E–8 Organize the Vocational Laboratory
E–9 Manage the Vocational Laboratory

Category F: Guidance

F–1 Gather Student Data Using Formal Data-Collection Techniques
F–2 Gather Student Data Through Personal Contacts
F–3 Use Conferences to Help Meet Student Needs
F–4 Provide Information on Educational and Career Opportunities
F–5 Assist Students in Applying for Employment or Further Education

Category G: School-Community Relations

G–1 Develop a School-Community Relations Plan for Your Vocational Program
G–2 Give Presentations to Promote Your Vocational Program
G–3 Develop Brochures to Promote Your Vocational Program
G–4 Prepare Displays to Promote Your Vocational Program
G–5 Prepare News Releases and Articles Concerning Your Vocational Program
G–6 Arrange for Television and Radio Presentations Concerning Your Vocational Program
G–7 Conduct an Open House
G–8 Work with Members of the Community
G–9 Work with State and Local Educators
G–10 Obtain Feedback about Your Vocational Program

Category H: Student Vocational Organization

H–1 Develop a Personal Philosophy Concerning Student Vocational Organizations
H–2 Establish a Student Vocational Organization
H–3 Prepare Student Vocational Organization Members for Leadership Roles
H–4 Assist Student Vocational Organization Members in Developing and Financing a Yearly Program of Activities
H–5 Supervise Activities of the Student Vocational Organization
H–6 Guide Participation in Student Vocational Organization Contests

Category I: Professional Role and Development

I–1 Keep Up-to-Date Professionally
I–2 Serve Your Teaching Profession
I–3 Develop an Active Personal Philosophy of Education
I–4 Serve the School and Community
I–5 Obtain a Suitable Teaching Position
I–6 Provide Laboratory Experiences for Prospective Teachers
I–7 Plan the Student Teaching Experience
I–8 Supervise Student Teachers

Category J: Coordination of Cooperative Education

J–1 Establish Guidelines for Your Cooperative Vocational Program
J–2 Manage the Attendance, Transfers, and Terminations of Co-Op Students
J–3 Enroll Students in Your Co-Op Program
J–4 Secure Training Stations for Your Co-Op Program
J–5 Place Co-Op Students on the Job
J–6 Develop the Training Ability of On-the-Job Instructors
J–7 Coordinate On-the-Job Instruction
J–8 Evaluate Co-Op Students' On-the-Job Performance
J–9 Prepare for Students' Related Instruction
J–10 Supervise an Employer-Employee Appreciation Event

RELATED PUBLICATIONS

Student Guide to Using Performance-Based Teacher Education Materials
Resource Person Guide to Using Performance-Based Teacher Education Materials
Guide to the Implementation of Performance-Based Teacher Education

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For information regarding availability and prices of these materials contact—

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